National Textile University

Department of Computer Science

Subject:

Operating System

Submitted to:

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23-NTU-CS-FL-1148

Semester:

5th- A

LAB_01

WSL2 and UBUNTU setup

Objective:

The purpose of his lab is to explore the ubuntu environment running inside windows through WSL2. We also practicing navigating the Linux file system, accessing windows files through WSL and sharing files between Windows and Ubuntu.
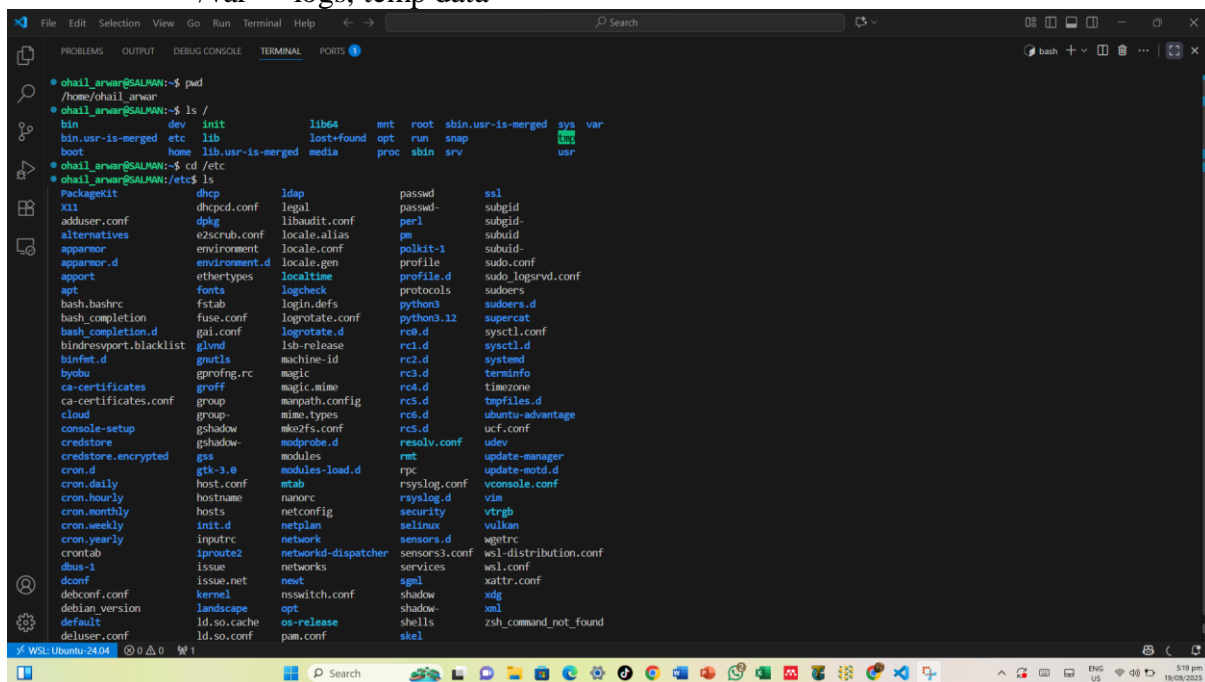
TASK_01: Exploring Linux Filesystem

- First of all, I opened VS Code and connected it to UBUNTU by clicking on the icon present

in left-bottom of the page.

- I also learn following important directories:
  - /bin → essential binaries
  - /etc → configuration files
  - /home → user home folders
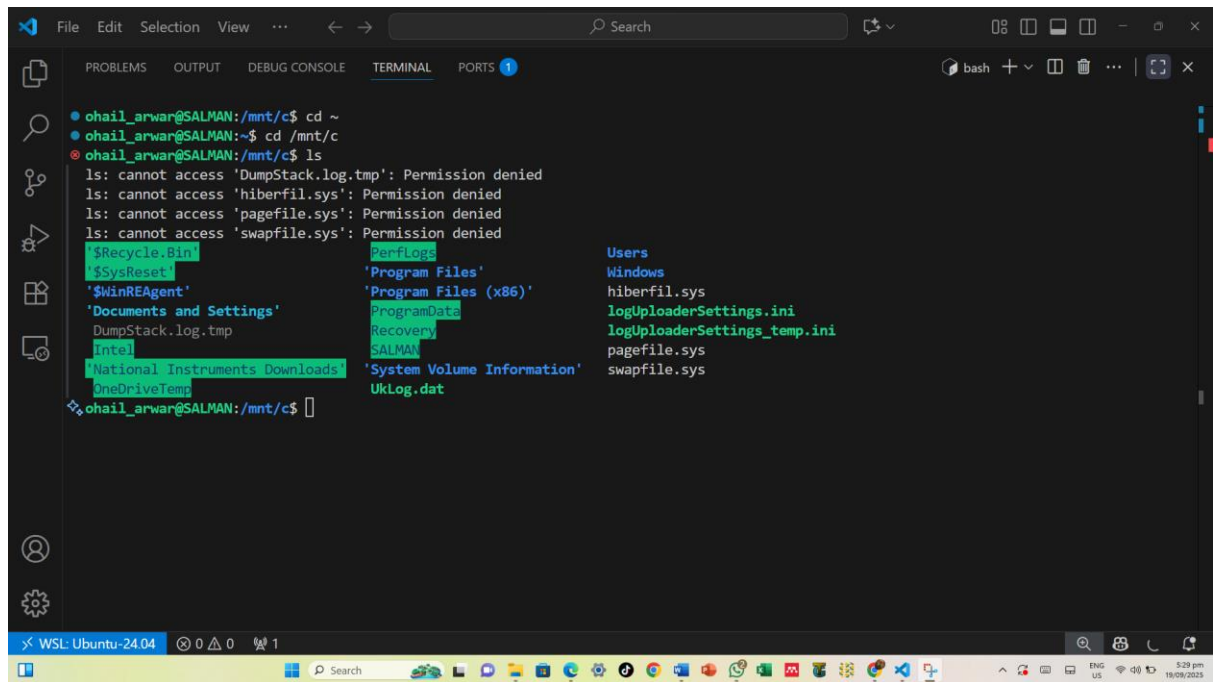 - /var → logs, temp data

TASK_02: Access Windows Filesystem under /mnt/

In UBUNTU(WSL), we can also access windows drives by using /mnt/

- C: drive → /mnt/c
- D: drive → /mnt/d

TASK_03: File sharing between Windows and UBUNTU

➢ We can create a file in windows and open it in UBUNTU.
➢ We can also create a file in UBUNTU and open it in windows by using following commands:

- cat windows_file.txt → read file made in Windows
- echo "Hello from Ubuntu" > ubuntu_file.txt → make file in Ubuntu
- python3 test.py → run python file from Windows.

TASK_04: gcc installation and Version Check

We also install and check the version of gcc by applying following commands in terminal:

➢ sudo apt update && sudo apt upgrade -y → updates and upgrades your system
➢ sudo apt install build-essential -y → installs developer tools needed for programming in C/C++ and building software.
➢ gcc –version → checks the version of gcc.

```
● ohail_arwar@SALMAN:~$ sudo apt update && sudo apt upgrade -y
  [sudo] password for ohail_arwar:
  Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease
  Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease
  Hit:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease
  Hit:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease
  Reading package lists... Done
  Building dependency tree... Done
  Reading state information... Done
  All packages are up to date.
  Reading package lists... Done
  Building dependency tree... Done
  Reading state information... Done
  Calculating upgrade... Done
  The following package was automatically installed and is no longer required:
    libllvm19
  Use 'sudo apt autoremove' to remove it.
  0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
● ohail_arwar@SALMAN:~$ sudo apt install build-essential -y
  Reading package lists... Done
  Building dependency tree... Done
  Reading state information... Done
  E: Unable to locate package build-essential -y
● ohail_arwar@SALMAN:~$ sudo apt install build-essential -y
  Reading package lists... Done
  Building dependency tree... Done
  Reading state information... Done
  build-essential is already the newest version (12.10ubuntu1).
  The following package was automatically installed and is no longer required:
    libllvm19
  Use 'sudo apt autoremove' to remove it.
  0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
● ohail_arwar@SALMAN:~$ gcc --version
  gcc (Ubuntu 13.3.0-6ubuntu2~24.04) 13.3.0
  Copyright (C) 2023 Free Software Foundation, Inc.
  This is free software; see the source for copying conditions.  There is NO
  warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

❖ ohail_arwar@SALMAN:~$ ▯
```

WSL: Ubuntu-24.04